

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch

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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-003866**Date Inspected:** 14-Sep-2008**Project Name:** SAS Superstructure**OSM Arrival Time:** 1400**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 500**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Chih-Ming / Sun Bo**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Various (see below)**Summary of Items Observed:**

On this day CALTRANS OSM Quality Assurance Inspector (QA) Steve Hall was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

**OBG bay 1**

QA observed ZPMC performing a variety of tasks relative to the fabrication of the OBG deck panels which included the following:

Fitting and welding u-rib splices, u-rib bevel prep, fitting u-ribs to deck panel DP-173-001 and drilling holes in the ends of the u-ribs.

QA noted that ZPMC has completed the u-rib to deck plate PJP welding on deck panel DP-092-001 on gantry 1 and has MT'ed the u-rib to deck plate PJP tack welds on DP-443-001 and currently has this deck panel clamped to Gantry 1 table. Gantry 2 is idle.

Due to ferry cancellation this QA stayed through the night to monitor and record the Production Monitoring Test (PMT) for deck panel DP-443-001 on gantry 1. Visual Testing (VT) and Ultrasonic Testing (UT) appeared to be in compliance with the "Deck Panel Acceptance Criteria" PMT dated May 30, 2008. See PMT inspection sheet dated 9/15/08 for details. All 15 macroetch samples were accepted by ZPMC, ABF and Caltrans QA.

**OBG bay 2**

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No CT work in this bay

### OBG bay 3

This QA was informed by day shift QA that ZPMC was performing Critical Weld Repair (CWR) excavations of cracked fillet welds on 6 side panels and 2 deck panels identified as SP-789, SP-403A, SP-788A, SP-407A, SP-397, SP-406, DP-629A and DP-633A. This QA was instructed by dayshift QA to verify that ZPMC QC perform Magnetic particle Test (MT) and accept the excavated areas. All of the excavated areas shown on ZPMCs CWR reports appeared to have been MT'ed and accepted by QC.

QA observed ZPMC performing a variety of tasks relative to the fabrication of the OBG side and bottom panels including the following:

Fit and weld stiffeners to panels and bevel prep of various side and bottom panels.

### OBG bay 4

QA observed ZPMC performing a variety of tasks relative to the fabrication of the SAS tower diaphragms and OBG side and bottom panels including the following:

Fit and weld stiffeners on side and bottom panels, welding tower diaphragms and tower diaphragm bevel prep. QA also noted that a ZPMC QC UT technician was UT'ing one of the CJP joints on a tower diaphragm.

### OBG assembly bay 2

QA received two Non Destructive Testing (NDT) notifications from ZPMC QA department. Notification document #01029 and 01030. QA performed 10% Ultrasonic Testing (UT) verification on the following weld joints:

Notification #01029, welds SSD9-PP019-007 & 105, SSD9A-PP019-005, 104 & 131. All welds appeared to be in compliance with AWS D1.5 2002 and the contract documents. QA noted that ZPMC UT technician has rejected the following weld: SSD9-PP019-130.

Notification #01030, welds SEG-016-001 & 002. All welds appeared to be in compliance with AWS D1.5 2002 and the contract documents. QA noted that ZPMC UT technician has rejected the following welds: SEG-020A-018 & 017.

QA noted that ZPMC is continuing to fit and weld external diaphragms to OBG deck panels, ignoring the "temporary suspension of fabrication" specific to the fit-up and welding of these diaphragms to the deck panels as outlined in state letter no. 05.03.01-002561 dated Aug. 15, 2008.

NOTE: Due to Chinese holiday no CT work was being performed in any of the OBG or tower bays after 1700 hrs with the exception of OBG bay 1 when ZPMC performed the PMT at mid-night.

### Summary of Conversations:

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Only general conversations were held between QA and QC concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Ryan Smith, (858) 232-6799, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Hall,Steven	Quality Assurance Inspector
<b>Reviewed By:</b>	Cuellar,Robert	QA Reviewer

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